

AMENDMENTS TO THE CLAIMS

Please amend the claims of the present application as set forth below. In accordance with the PTO's revised amendment format, a detailed listing of all claims has been provided. This listing of claims will replace all prior versions, and listings, of claims in the application.

By way of overview, claims 1-36, 42-45, 52, and 53 are currently pending (claims 37-41 and 46-51 having been cancelled in this Response without prejudice or disclaimer). Of the pending claims: a) Claims 1, 4, 17, 20, 32, and 33 were previously amended; b) Claims 34-36, 42-45, 52, and 53 were previously added; and c) Claims 2, 3, 5-16, 18, 19, and 21-31 are in original form.

Listing of Claims

1. (Previously Amended) A video input system for pre-processing video signals, the system comprising:

a video input module for receiving and forwarding one or more live video signals, the video input module producing a forwarded video signal for each received live video signal;

a first multiplexer, coupled to a memory and to the video input module, for receiving a first stored video signal from the memory, or for receiving one of the forwarded video signals produced in the video input module, and for providing an output signal VS₁ defined as the first stored video signal or defined as the one of the forwarded video signals;

a first video pipeline for pre-processing VS₁, the first video pipeline producing a first pre-processed video signal;

1 a second multiplexer, coupled to the memory and to the video input module, for
2 receiving a second stored video signal from the memory, or for receiving one of the
3 forwarded video signals produced in the video input module, and for providing an output
4 signal VS_2 defined as the second stored video signal or defined as the one of the
5 forwarded video signals; and

6 a second video pipeline for pre-processing VS_2 , the second video pipeline
7 producing a second pre-processed video signal.

8
9 2. (Original) The video input system according to claim 1 wherein the video input
10 module further comprises:

11 an ancillary data extractor, the extractor removing ancillary data from at least one
12 of the live video signals converted in the video input module.

13
14 3. (Original) The video input system according to claim 1 wherein the received
15 live video signal is VS , wherein VS is an analog composite video signal, an analog
16 component video signal, a serial digital composite video signal, a serial digital
17 component video signal, a parallel digital composite video signal, or a parallel digital
18 component video signal.

19
20 4. (Previously Amended) The video input system according to claim 1 wherein
21 the forwarded video signal includes D , wherein D is color data, alpha data, or color and
22 alpha data.

23
24 5. (Original) The video input system according to claim 1 wherein at least one of
25 the pre-processed video signals is $e\text{-}VS$, wherein $e\text{-}VS$ is an RGB encoded video signal,

1 an RGBA encoded video signal, a YUV-Type encoded video signal, or a YUVA-Type
2 encoded video signal.

3
4 6. (Original) The video input system according to claim 1 wherein the first
5 pre-processed video signal is output to a storage medium and the second pre-processed
6 video signal is forwarded to a video graphics processor.

7
8 7. (Original) The video input system according to claim 1 wherein the first
9 pre-processed video signal is output to a storage medium and the second pre-processed
10 video signal is forwarded to a video output system.

11
12 8. (Original) The video input system according to claim 1 wherein the first
13 pre-processed video signal is forwarded to a video graphics processor and the second
14 pre-processed video signal is forwarded to a video output system.

15
16 9. (Original) The video input system according to claim 1 wherein the process of
17 pre-processing includes changing the sample rate of the video signal being pre-processed.

18
19 10. (Original) The video input system according to claim 1 wherein the process of
20 pre-processing includes gamma removal.

21
22 11. (Original) The video input system according to claim 1 wherein the process of
23 pre-processing includes gamma insertion.

1 12. (Original) The video input system according to claim 1 wherein the process of
2 pre-processing includes color space conversion.

3
4 13. (Original) The video input system according to claim 1 wherein the process of
5 pre-processing includes dithering.

6
7 14. (Original) The video input system according to claim 1 wherein the process of
8 pre-processing includes scaling.

9
10 15. (Original) The video input system according to claim 1 wherein the process of
11 pre-processing includes addressing on a frame-by-frame basis the video signal being
12 pre-processed.

13
14 16. (Original) The video input system according to claim 1 wherein the system is
15 a Peripheral Component Interconnect circuit board.

16
17 17. (Previously Amended) A method for pre-processing video signals, the method
18 comprising:

19 receiving one or more live video signals in a video input module and forwarding
20 the one or more live video signals, producing a forwarded video signal for each received
21 live video signal;

22 receiving, in a first multiplexer coupled to a memory and to the video input
23 module, a first stored video signal from the memory, or one of the forwarded video
24 signals produced in the video input module, and providing an output signal VS_1 defined
25 as the first stored video signal or defined as the one of the forwarded video signals;

1 pre-processing VS_1 through a first video pipeline to produce a first pre-processed
2 video signal;

3 receiving, in a second multiplexer coupled to the memory and to the video input
4 module, a second stored video signal from the memory, or one of the forwarded video
5 signals produced in the video input module, and providing an output signal VS_2 defined
6 as the second stored video signal or defined as the one of the forwarded video signals;
7 and

8 pre-processing VS_2 through a second video pipeline to produce a second
9 pre-processed video signal.

10
11 18. (Original) The method according to claim 17, further comprising:
12 removing ancillary data from at least one of the live video signals prior to
13 converting the at least one live video signal.

14
15 19. (Original) The method according to claim 17 wherein the received live video
16 signal is VS , wherein VS is an analog composite video signal, an analog component
17 video signal, a serial digital composite video signal, a serial digital component video
18 signal, a parallel digital composite video signal, or a parallel digital component video
19 signal.

20
21 20. (Previously Amended) The method according to claim 17 wherein the
22 forwarded video signal includes D , wherein D is color data, alpha data, or color and alpha
23 data.

1 21. (Original) The method according to claim 17 wherein at least one of the
2 pre-processed video signals is e-VS, wherein e-VS is an RGB encoded video signal, an
3 RGBA encoded video signal, a YUV-Type encoded video signal, or a YUVA-Type
4 encoded video signal.

5
6 22. (Original) The method according to claim 17 wherein the first pre-processed
7 video signal is output to a storage medium and the second pre-processed video signal is
8 forwarded to a video graphics processor.

9
10 23. (Original) The method according to claim 17 wherein the first pre-processed
11 video signal is output to a storage medium and the second pre-processed video signal is
12 forwarded to a video output system.

13
14 24. (Original) The method according to claim 17 wherein the first pre-processed
15 video signal is forwarded to a video graphics processor and the second pre-processed
16 video signal is forwarded to a video output system.

17
18 25. (Original) The method according to claim 17 wherein the process of
19 pre-processing includes changing the sample rate of the video signal being pre-processed.

20
21 26. (Original) The method according to claim 17 wherein the process of
22 pre-processing includes gamma removal.

23
24 27. (Original) The method according to claim 17 wherein the process of
25 pre-processing includes gamma insertion.

1
2 28. (Original) The method according to claim 17 wherein the process of
3 pre-processing includes color space conversion.
4

5 29. (Original) The method according to claim 17 wherein the process of
6 pre-processing includes dithering.
7

8 30. (Original) The method according to claim 17 wherein the process of
9 pre-processing includes scaling.
10

11 31. (Original) The method according to claim 17 wherein the process of
12 pre-processing includes addressing on a frame-by-frame basis the video signal being
13 pre-processed.
14

15 32. (Previously Amended) A video input system for pre-processing video signals,
16 the system comprising:

17 input means for receiving one or more live video signals and for forwarding the
18 one or more live video signals, producing a forwarded video signal for each received live
19 video signal;

20 first multiplexing means, coupled to a memory and to the input means, for
21 receiving a first stored video signal from the memory or for receiving one of the
22 forwarded video signals produced in the input means, and for providing an output signal
23 VS₁ defined as the first stored video signal or defined as the one of the forwarded video
24 signals;
25

1 means for pre-processing VS_1 through a first video pipeline to produce a first
2 pre-processed video signal;

3 second multiplexing means, coupled to the memory and to the input means, for
4 receiving a second stored video signal from the memory or for receiving one of the
5 forwarded video signals produced in the input means, and for providing an output signal
6 VS_2 defined as the second stored video signal or defined as the one of the forwarded
7 video signals; and

8 means for pre-processing VS_2 through a second video pipeline to produce a
9 second pre-processed video signal.

10
11 33. (Previously Amended) The system according to claim 32, further comprising:
12 means for removing ancillary data from at least one of the live video signals prior
13 to converting the at least one live video signal.

14
15 34. (Previously Added) The video input system according to claim 1 wherein the
16 forwarded video signal received by the first multiplexer is the same as the forwarded
17 video signal received by the second multiplexer.

18
19 35. (Previously Added) The video input system according to claim 1 wherein the
20 forwarded video signal received by the first multiplexer is different than the forwarded
21 video signal received by the second multiplexer.

22
23 36. (Previously Added) The video input system according to claim 1, further
24 comprising:
25

1 a third multiplexer for receiving the first pre-processed video signal and for
2 routing an output signal based thereon to one of: a video output system, a video graphics
3 processor, and a storage medium; and

4 a fourth multiplexer for receiving the second pre-processed video signal and for
5 routing another output signal based thereon to one of: the video output system, the video
6 graphics processor, and the storage medium.

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8 37. (Cancelled)

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10 38. (Cancelled)

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12 39. (Cancelled)

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14 40. (Cancelled)

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16 41. (Cancelled)

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18 42. (Previously Added) A video input system for pre-processing video signals, the
19 system comprising:

20 a video input module for receiving and forwarding a video signal;

21 a first video pipeline for pre-processing the forwarded video signal to produce a
22 first pre-processed video signal, wherein the pre-processing in the first video pipeline
23 includes one of: up sampling, down sampling, gamma insertion, gamma removal, color
24 space conversion, scaling, and dithering; and
25

1 a second video pipeline for pre-processing the same forwarded video signal to
2 produce a second pre-processed video signal, wherein the pre-processing in the second
3 video pipeline includes one of: up sampling, down sampling, gamma insertion, gamma
4 removal, color space conversion, scaling, and dithering,

5 wherein the video input system is configured to forward the first pre-processed
6 video signal to a storage medium, and

7 wherein the video input system is configured to forward the second pre-processed
8 video signal to a display.

9
10 43. (Previously Added) The method according to claim 17 wherein the forwarded
11 video signal received by the first multiplexer is the same as the forwarded video signal
12 received by the second multiplexer.

13
14 44. (Previously Added) The method according to claim 17 wherein the forwarded
15 video signal received by the first multiplexer is different than the forwarded video signal
16 received by the second multiplexer.

17
18 45. (Previously Added) The method according to claim 17, further comprising:
19 receiving, in a third multiplexer, the first pre-processed video signal, and routing
20 an output signal based thereon to one of: a video output system, a video graphics
21 processor, and a storage medium; and

22 receiving, in a fourth multiplexer, the second pre-processed video signal, and
23 routing another output signal based thereon to one of: the video output system, the video
24 graphics processor, and the storage medium.

- 1 46. (Cancelled)
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- 3 47. (Cancelled)
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- 5 48. (Cancelled)
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- 7 49. (Cancelled)
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- 9 50. (Cancelled)
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- 11 51. (Cancelled)
- 12
- 13 52. (Previously Added) A video input system for pre-processing video signals, the
- 14 system comprising:
- 15 a video input module for receiving and forwarding one or more live video signals,
- 16 the video input module producing a forwarded video signal for each received live video
- 17 signal;
- 18 a first video pipeline for pre-processing VS_1 , wherein the video input system is
- 19 configured to receive VS_1 as a first stored video signal in one input configuration, and the
- 20 video input system is configured to receive VS_1 as one of the forwarded video signals
- 21 produced in the video input module in another input configuration, the first video pipeline
- 22 producing a first pre-processed video signal; and
- 23 a second video pipeline for pre-processing VS_2 , wherein the video input system is
- 24 configured to receive VS_2 as one of the same video signal being pre-processed in the first
- 25 video pipeline in one input configuration, and the video input system is configured to

1 receive VS_2 as one of the other forwarded video signals produced in the video input
2 module in another input configuration, and the video input system is configured to
3 receive VS_2 as a second stored video signal in another input configuration, the second
4 video pipeline producing a second pre-processed video signal,

5 wherein the pre-processing in the first video pipeline makes changes to
6 displayable video content in the signal VS_1 ,

7 and wherein the pre-processing in the second video pipeline makes changes to
8 displayable video content of the signal VS_2 .

9
10 53. (Previously Added) A method for pre-processing video signals, the method
11 comprising:

12 receiving one or more live video signals in a video input module and forwarding
13 the one or more live video signals, producing a forwarded video signal for each received
14 live video signal;

15 selecting an input configuration used to define a signal VS_1 , wherein in one input
16 configuration, VS_1 is a first stored video signal, and in another input configuration, VS_1 is
17 one of the forwarded video signals produced in the video input module;

18 pre-processing VS_1 through a first video pipeline, producing a first pre-processed
19 video signal;

20 selecting an input configuration used to define VS_2 , wherein in one input
21 configuration, VS_2 is the same video signal being pre-processed in the first video
22 pipeline, and in another input configuration, VS_2 is one of the other forwarded video
23 signals produced in the video input module, and in another input configuration VS_2 is a
24 second stored video signal; and
25

1 pre-processing VS_2 through a second video pipeline, producing a second
2 pre-processed video signal,

3 wherein the pre-processing in the first video pipeline makes changes to
4 displayable video content in the signal VS_1 ,

5 and wherein the pre-processing in the second video pipeline makes changes to
6 displayable video content of the signal VS_2 .